



Complete Summary

TITLE

Heart failure: percent of patients with ejection fraction less than 40 and a principal discharge diagnosis of heart failure who were on angiotensin-converting enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB) prior to admission (inpatient heart failure antecedent cohort).

SOURCE(S)

Office of Quality and Performance (10Q). FY 2005 VHA executive career field network director performance measurement system and JCAHO hospital core measures. Technical manual. Washington (DC): Veterans Health Administration (VHA); 2005 Mar 9. 244 p.

Brief Abstract

DESCRIPTION

This measure assesses the percentage of patients with ejection fraction less than 40 and a principal discharge diagnosis of heart failure who were on angiotensin-converting enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB) prior to admission.

RATIONALE

Pharmacologically, the value of diuretics, angiotensin-converting enzyme (ACE) inhibitors, angiotensin receptor blocker (ARB), beta-blockers and digitalis has been established by the results of numerous large scale clinical trials, and the evidence supporting a central role for their use is compelling and persuasive. Over the past several years, understanding of the effect of activation of the renin-angiotensin system (RAS) and the sympathetic nervous system (SNS) on the pathophysiology of heart failure (HF) has resulted in the development of drugs that have improved morbidity and mortality associated with HF. The cornerstone of proper medical treatment in patients with heart failure due to left ventricular systolic dysfunction (LVSD) is the prescription of an angiotensin-converting enzyme inhibitor (ACEI). Numerous trials have demonstrated the role of ACEIs in improving HF symptoms and functional status as well as in decreasing the frequency of hospitalization and mortality rate.

More recent trials demonstrate that ARBs have an important role in HF treatment and LVSD. The valiant trial directly compared an ACEI with an ARB (as well as the combination of the two) in patients with signs and symptoms of HF or LVSD after acute myocardial infarction (AMI). In this trial, the ARB was statistically "non-

inferior" to ACEIs in this patient population. This study was the first to demonstrate the equivalence of ARBs in the patient after myocardial infarction.

PRIMARY CLINICAL COMPONENT

Heart failure; angiotensin-converting enzyme inhibitor (ACEI); angiotensin receptor blocker (ARB)

DENOMINATOR DESCRIPTION

Eligible patients with ejection fraction less than 40 and a principal discharge diagnosis of heart failure that had been treated in the Veterans Health Administration (VHA) for heart failure sometime during the previous 24 months (established patients) (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

NUMERATOR DESCRIPTION

The number of patients from the denominator who were on angiotensin-converting enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB) prior to admission (see the related "Numerator Inclusions/Exclusions" field in the Complete Summary)

Evidence Supporting the Measure

PRIMARY MEASURE DOMAIN

Process

SECONDARY MEASURE DOMAIN

Not applicable

EVIDENCE SUPPORTING THE MEASURE

A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence

NATIONAL GUIDELINE CLEARINGHOUSE LINK

- [ACC/AHA guidelines for the evaluation and management of chronic heart failure in the adult: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines \(Committee to Revise the 1995 Guidelines for the Evaluation and Management of Heart Failure\).](#)
- [The pharmacologic management of chronic heart failure.](#)

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Use of this measure to improve performance
Wide variation in quality for the performance measured

EVIDENCE SUPPORTING NEED FOR THE MEASURE

Office of Quality and Performance (10Q). FY 2005 VHA executive career field network director performance measurement system and JCAHO hospital core measures. Technical manual. Washington (DC): Veterans Health Administration (VHA); 2005 Mar 9. 244 p.

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

External oversight/Veterans Health Administration
Internal quality improvement

Application of Measure in its Current Use

CARE SETTING

Hospitals

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Advanced Practice Nurses
Physician Assistants
Physicians

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

TARGET POPULATION AGE

Unspecified

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

Chronic heart failure affects 6 or 7 out of every 100 adults age 65 to 74 and these numbers are increasing.

EVIDENCE FOR INCIDENCE/PREVALENCE

Office of Quality and Performance (10Q). FY 2005 VHA executive career field network director performance measurement system and JCAHO hospital core measures. Technical manual. Washington (DC): Veterans Health Administration (VHA); 2005 Mar 9. 244 p.

ASSOCIATION WITH VULNERABLE POPULATIONS

See the "Incidence/Prevalence" field.

BURDEN OF ILLNESS

Heart failure (HF) is lethal: approximately two-thirds of those veterans with HF die within five years of their initial hospitalization, and HF causes significant functional limitation.

EVIDENCE FOR BURDEN OF ILLNESS

Office of Quality and Performance (10Q). FY 2005 VHA executive career field network director performance measurement system and JCAHO hospital core measures. Technical manual. Washington (DC): Veterans Health Administration (VHA); 2005 Mar 9. 244 p.

UTILIZATION

Hospital and resource use associated with heart disease is tremendous, with heavy utilization of both inpatient and outpatient services. Heart failure (HF) accounts for more hospital admissions than any other diagnosis in patients over age of 65.

EVIDENCE FOR UTILIZATION

Office of Quality and Performance (10Q). FY 2005 VHA executive career field network director performance measurement system and JCAHO hospital core measures. Technical manual. Washington (DC): Veterans Health Administration (VHA); 2005 Mar 9. 244 p.

COSTS

Estimates of annual expenditures on heart failure (HF) in the United States are astonishing, ranging from \$10 billion to \$40 billion.

EVIDENCE FOR COSTS

Office of Quality and Performance (10Q). FY 2005 VHA executive career field network director performance measurement system and JCAHO hospital core measures. Technical manual. Washington (DC): Veterans Health Administration (VHA); 2005 Mar 9. 244 p.

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

Eligible patients from the Inpatient Heart Failure Antecedent cohort*

*Refer to the original measure documentation for patient cohort description.

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR (INDEX) EVENT

Clinical Condition
Institutionalization

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions

Eligible patients with ejection fraction less than 40 and a principal discharge diagnosis of heart failure that had been treated in the Veterans Health Administration (VHA) for heart failure sometime during the previous 24 months (established patients)*

*Eligible Patients: From the Inpatient Heart Failure Antecedent cohort (refer to the original measure documentation for patient cohort description).

Exclusions

Exclude patients with:

- Transfer to another acute care hospital
- Death or discharged to hospice or against medical advice (AMA)
- Chart documentation of participation in a clinical trial testing alternatives to angiotensin-converting enzyme inhibitors (ACEIs) or angiotensin receptor blocker (ARB) as first-line heart failure therapy
- One or more of the following reasons for not prescribing ACEI or ARB documented in the medical record:
 - ACEI AND ARB allergy
 - Moderate or severe aortic stenosis
 - Other reasons documented by Medical Doctor (MD), Doctor of Osteopathy (DO), Nurse Practitioner (NP), Physician Assistant (PA). Note must explicitly link the noted reason with the non-prescription of both ACEI AND ARB.

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions

The number of patients from the denominator who were on angiotensin-converting enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB) prior to admission*

*Prior to Admission: The most recent outpatient care, excluding an emergency department visit immediately prior to admission where medications were recorded.

Exclusions

Exclude patients with documented:

- Contraindications to ACEI and ARB - allergy or intolerance to ACEI and ARB, bilateral renal artery stenosis or renal artery stenosis in a solitary kidney, chronic renal dialysis, moderate or severe aortic stenosis, pregnancy, serum potassium greater than 5.5 mEq/L that cannot be reduced or symptomatic hypotension, and other reasons documented by Medical Doctor (MD), Nurse Practitioner (NP), or Physician Assistant (PA) which explicitly links the noted reason with non-prescription of ACEI and ARB.
- Clinical Trial: Current participation in a clinical trial testing alternatives to ACEI or ARB as first-line heart failure therapy.

DENOMINATOR TIME WINDOW

Time window is a fixed period of time

NUMERATOR TIME WINDOW

Episode of care

DATA SOURCE

Administrative and medical records data

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a higher score

ALLOWANCE FOR PATIENT FACTORS

Unspecified

STANDARD OF COMPARISON

Internal time comparison
Prescriptive standard

PRESCRIPTIVE STANDARD

Fiscal year (FY) 2005 targets for Angiotensin-Converting Enzyme Inhibitor (ACEI) or Angiotensin Receptor Blocker (ARB) prior to inpatient admission (Inpatient Heart Failure Antecedent cohort):

- Facility Floor: 80%
- Meets Target: 90%
- Exceeds Target: 95%

EVIDENCE FOR PRESCRIPTIVE STANDARD

Office of Quality and Performance (10Q). FY 2005 VHA executive career field network director performance measurement system and JCAHO hospital core measures. Technical manual. Washington (DC): Veterans Health Administration (VHA); 2005 Mar 9. 244 p.

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

Unspecified

Identifying Information

ORIGINAL TITLE

Heart failure (HF): ejection fraction less than 40 on ACEI/ARB prior to HF admission.

MEASURE COLLECTION

[Fiscal Year \(FY\) 2005: Veterans Health Administration \(VHA\) Performance Measurement System](#)

MEASURE SET NAME

[Cardiovascular](#)

MEASURE SUBSET NAME

[Heart Failure](#)

DEVELOPER

Veterans Health Administration

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2002 Nov

REVISION DATE

2005 Mar

MEASURE STATUS

This is the current release of the measure.

SOURCE(S)

Office of Quality and Performance (10Q). FY 2005 VHA executive career field network director performance measurement system and JCAHO hospital core measures. Technical manual. Washington (DC): Veterans Health Administration (VHA); 2005 Mar 9. 244 p.

MEASURE AVAILABILITY

The individual measure, "Heart Failure (HF): Ejection Fraction Less Than 40 on ACEI/ARB Prior to HF Admission," is published in "FY 2005 VHA Performance Measurement System: Technical Manual."

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NQMC STATUS

This NQMC summary was completed by ECRI on November 11, 2004. The information was verified by the measure developer on December 10, 2004.

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The logo for FIRSTGOV, with "FIRST" in blue and "GOV" in red, and a small red star above the "I".

